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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,279	01/20/2006	Rami Rom	1340601NPUS	7968
36131	7590	06/20/2008	EXAMINER	
YORAM TSVION P.O. BOX 1307 PARDES HANNA, 37111 ISRAEL			GETZOW, SCOTT M	
			ART UNIT	PAPER NUMBER
			3762	
			MAIL DATE	DELIVERY MODE
			06/20/2008	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/565,279

**Applicant(s)**

ROM, RAMI

**Examiner**

/Scott M. Getzow/

**Art Unit**

3762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/88)  
Paper No(s)/Mail Date \_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

***Claim Objections***

1. Claims 12-18 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only, and must not depend from another multiple dependent claim. See MPEP § 608.01(n).

***Claim Rejections - 35 USC § 112***

2. Claims 10-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9 is for a method for regulating a controlled delivery. Claim 10 is a method for adaptive biventricular pacing control. The preambles to the claims should be directed to the same subject matter for the claims to be understandable. Similarly, for the other claims above. Further, the dependency of claim 12 is non-sensical; it is not clear what claim it

depends from. Also, in claim 14, 'synaptic weight' lacks antecedent basis. In claim 15, 'neural network' lacks proper antecedent basis.

The following rejections have been made using the examiner's best guess as to the correct claim dependency.

***Claim Rejections - 35 USC § 103***

3. Claims 1,2,5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nickolls et al (5,251,626) in view of Baker (6,704,599).

Nickolls teaches a learning neural network (col. 6) as well as deterministic algorithms (col. 10), see also figure 3. The device can stimulate the patient's heart dependent upon various sensed physiological signals

(col. 6). Col. 12 also teaches the use of a variety of different types of neural networks. Baker teaches a device which can provide cardiac resynchronization therapy. To use such therapy with the device of Nickolls would have been obvious since cardiac resynchronization therapy has been found to be warranted and useful in a large number of pacemaker patients.

4. Claims 3,4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nickolls et al (5,251,626) in view of Sarpeshkar (6,242,988).

Sarpeshkar teaches the use of spiking neuron networks. To use such with the device of Nickolls would have been obvious since such networks are known in the field for the benefits they provide.

5. Claims 9,19,20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Esteller et al (2003/0158587).

Esteller teaches a device which uses neural networks and sophisticated algorithms to process signals from the patient and deliver therapy to treat a variety of neurological disturbances. Accordingly, the method steps of the above claims are considered to follow obviously from the normal workings of the Esteller device. The device can deliver various types of stimulation including chemical and electrical stimulation, see abstract.

6. Claims 10-13,16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nickolls et al (5,251,626) in view of Park et al (5,800,467). The device of Park teaches adaptive stimulation of the heart. The device is capable of sensing a physiological signal related to patient hemodynamics

and adjust the pacing rate accordingly. Further, to switch to non-adaptive pacing during a system failure would have been obvious since the patient still would need pacing during the system failure and hence would then receive the pacing independent of the sensed signals. (such signals would be considered unreliable and therefore not to be used to change the pacing rate). To use such a device with the invention of Nickolls would have been obvious in order to provide effective treatment of the patient's condition.

7. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nickolls et al (5,251,626) in view of Park et al (5,800,467) and further in view of Hoppensteadt et al (7,280,989).

The '989 teaches the use of Hebbian learning. To use such would have been obvious since Hebbian learning rules have been shown to be effective systems to use with neural networks.

8. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nickolls et al (5,251,626) in view of Park et al (5,800,467) and further in view of Sarpeshkar (6,242,988)

It would have been obvious to use the spiking neuron network of Sarpeshkar for reasons mentioned supra.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Scott M. Getzow/ whose telephone number is (571) 272-4946. The examiner can normally be reached on M-F, 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Sykes can be reached on (571) 272-4955. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Scott M. Getzow/  
Primary Examiner  
Art Unit 3762

SMG

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